Dynamic Subscription and Message Routing on a Topic Between A Publishing Node and Subscribing Nodes

Abstract of the Disclosure

[0089]   A system for dynamic message routing on a topic between publishing nodes and subscribing nodes includes a plurality of message queues, at least one topic/node table, a subscribing module, a publishing module, and other modules to send messages between one or more publisher and one or more subscribers. These modules are coupled together by a bus in a plurality of nodes and provide for the dynamic message routing on a topic between publishing nodes and subscribing nodes. The message queues store messages at each node for delivery to subscribers local to that node. The topic/node table lists which clients subscribe to which topics, and is used by the other modules to ensure proper distribution of messages. The subscribing module is use to establish a subscription to a topic for that node. The publishing module is used to identify subscribers to a topic and transmit messages to subscribers dynamically. The other modules include various devices to optimize message communication in a publish/subscribe architecture operating on a distributed computing system. The present invention also includes a number of novel methods including: a method for publishing a message on a topic, a method for forwarding a message on a topic, a method for subscribing to messages on a topic, a method for automatically removing subscribers, a method for direct publishing of messages, and methods for optimizing message transmission between nodes.